Project No:	CRXC0062
Project Name:	Bean Road Tunnel

BALFOUR BEATTY UK

EMERGENCY PREPAREDNESS PLAN TEMPORARY SHEET PILING

Rev 01
11th February 2022

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1. APPROVAL, DISTRIBUTION, MONITORING AND REVIEW

1.1 APPROVAL

	Date	Signature
Prepared By (Project Lead)		
Approved by (Project Sponsor)		
Approved by *(Insert others as required)*		

1.2 DISTRIBUTION OF COMPLETED EMERGENCY PREPAREDNESS PLAN

Copy No.	Name	Position	Location
1	Rob White	Project Lead	Site Office
2	Anne Connolly	Project Sponsor	5 Churchill Place, Canary Wharf, London, E14 5HU
3	Kent County Council	Customer	Property and Infrastructure Support, Sessions House, County Road, Maidstone, Kent, ME141XQ
4	Graham Killick	Customers Agent/Representative (if applicable)	Property and Infrastructure Support, Sessions House, County Road, Maidstone, Kent, ME141XQ
5		*Insert others as required*	

1.3 RECORD OF REVIEW

Date	Rev No.	Details of Review	By Whom	Action Taken	Signed

2. PURPOSE OF DOCUMENT

The purpose of this Emergency Preparedness Plan (EPP) is to record and outline the controls and procedures that are in place to ensure all reasonably practicable measures have been taken to protect the people, the works, the public and associated third party assets in the event of an emergency during the installation of temporary sheet piles for the Bean Road Tunnel (BRT) project.

The mitigation of construction risks is considered during design and construction stages and are identified and managed through the documented risk assessment and method statement processes. This EPP outlines the emergency scenarios considered and the actions to be taken after an unplanned event has occurred to ensure the health and safety of our employees, sub-contractors, any third-party personnel, the public and any assets within the footprint of the BRT project.

2.1 ASSETS TO BE CONSIDERED

A number of third party and statutory assets are present within close proximity to the proposed temporary sheet piling and are considered within this EPP. The affected assets are set out below in Figure 2.a.

GROUNDTECH CONSULTING	CLIENT	BALFOUR BEATTY	DATE	MAY 2021			
	PROJECT TITLE	BEAN UNDERPASS TRIAL HOLE SURVEY	SCALE	NTS			
	PLAN TITLE	EXPLORATORY HOLE LOCATION PLAN	PLAN NUMBER	GRO-20392-P02			
					Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

Trial Hole Location

2.2 REFERENCED DOCUMENTS

This EPP considers procedures, controls and recommendations included across several documents as outlined below:

Document Reference	Document Title	Document Author
PMR-TF-0001b	Construction Phase Plan	Balfour Beatty
N/A	Construction Environmental Management Plan	Balfour Beatty
N/A	Project and Site-Specific Inductions	Balfour Beatty
HSES-TF-00026a	Project Training Matrix & Responsibilities Matrix	Balfour Beatty
HSES-TF-0003a	Emergency Response Matrix & Assessment	Balfour Beatty
NA	Site Layout Plans	Balfour Beatty
N/A	Sprayed Concrete Bean Road Tunnel. Risk Assessment & Method Statement	Shotcrete
82962/AN	Groundforce Temporary Sheet Pile Design	Groundforce
0421-GTC-001	Trial Hole One	GTC/Subsite
HSES-TF-0011h	Sheet Pile Wall Outline Method Statement	Balfour Beatty

3. PROJECT OVERVIEW

The works are for a new tunnel of 70m in length through the chalk spine under the B255 Bean Road between Bluewater Shopping Centre and the Eastern Quarry site, serving to directly connect the shopping centre to the new Eastern Quarry development and Ebbsfleet International Railway Station. It will form part of the Fastrack bus rapid transit system within Kent Thameside and drive forward to accomplish the theme of Modal Share of non-car modes within the Fastrack network.

The tunnel will house a 3.5m wide single way Fastrack Busway linking Eastern Quarry and Bluewater, as well as providing a pedestrian footway and shared footway/cycleway linking the Eastern Quarry and Bluewater as part of the Ebbsfleet Garden City green corridor network.

The single lane, bi-directional bus lane will be controlled by a traffic signal system. The shared footway/cycleway is located on the northern side of the tunnel, with the pedestrian footway to the south. Included with the traffic signal system, one controlled crossing will be constructed on Bluewater Parkway and there will be an uncontrolled crossing at the east portal of the tunnel. The bus lane will turn left only into Bluewater Parkway to access Bluewater bus station. The route to the new development in Eastern Quarry from Bluewater bus station is designed as a controlled turn right into the tunnel from a dedicated bus lane. An additional traffic lane will be formed in the western verge of northbound carriageway of Bluewater Parkway to maintain two lanes of regular traffic in both directions around the peripheral highway network.

An embankment will be constructed for the new road over the existing reed bed and flood lagoon. In compensation, the existing lagoon will be extended to the north to provide the same capacity as existing. A piped culvert is tabled as the connector between the existing lagoon and the extended area.

The works area within the Bluewater Shopping complex is currently woodland and shrubs with an ecological element that will be sympathetically managed for trees, shrubs, and wildlife so there is minimal damage or long-term effects. As part of the proposal for the tunnel, new trees will be planted within the western side and at strategic locations around the Bluewater Park. Further ecology considerations are required for an existing bat colony and it is the intention to retain the existing south haulage tunnel as a bat refuge. All these measures will leave a lasting legacy.

An early works enabling package will be delivered to ensure the safety of those working in or around the new tunnelling works. The scope of these works will include de-vegetation and rock stabilisation of the chalk cliff faces. Access will be from high level on the B255 which will require traffic management to be in place. A specialist high level access supplier will be utilised to provide safe access down the cliff face when installing the rock stabilisation system.

4. ROLES & RESPONSIBILITIES

4.1 COMMUNICATION & SITE CONTACTS

Organisation	Job Title	Name	Contact Details
Balfour Beatty	Portfolio Director	Anne Connolly	[redacted]
Balfour Beatty	Project Manager	Rob White	[redacted]
Balfour Beatty	Package Manager (Agent)	TBC	TBC
Balfour Beatty	HSE Advisor	Mick Stallard	[redacted]
Balfour Beatty	Environment & Sustainability Manager	Emma Eves	[redacted]
Balfour Beatty	Works Manager	Joe Lewis	[redacted]
Balfour Beatty	General Foreman (Evening Ops)	TBC	TBC
Balfour Beatty	Works Manager (Night Ops)	TBC	TBC
Kent County Council	Major Capital Programme Project Manager	Graham Killick	[redacted]
Thames Water	Developer Services Major Projects	Alex Birgauan	[redacted]
Thames Water	Asset Protection – Civil Engineer	Michaela Chan	[redacted]
Thames Water	24hr Service Number	N/A	0800 316 9800
Thames Water	Waste Operational Control Centre	N/A	0800 009 3908
Thames Water	Clean Water Network Management Centre	N/A	0800 009 3909
UKPN	Diversions Engineer	Mwelwa Chilbwe	[redacted]twork s.co.uk
SGN	Plant Protection Officer	Johnathan Taylor	[redacted]
Bluewater	TBC	TBC	TBC
Virgin Media	Access Planner	Daniel Barrier	0[redacted]
BT Openreach	Network Rearrangement Complex	Robert Turpie	[redacted]
**Others to be added as required*			

4.2 PROJECT ROLES & RESPONSIBILITIES

Specific site roles have been defined to guarantee the project is appropriately resourced at all times and to ensure the controls and procedures outlined within this EPP and associated health and safety documentation are adhered to, and respective action plans are implemented in the event of an emergency. **Note that one individual may fulfil more than one specific role as defined below.*

4.2.1 PROJECT MANAGER

The project manager holds overall responsibility for health and safety on the project and will ensure:

- A suitable emergency plan is developed and briefed to all personnel involved within the construction works.
- Provide adequate resources (both time and money) to ensure the emergency plan is effective and achievable.
- The approved emergency plan is practiced, and any learnings recorded and implemented.
- Account for all gang members at the assembly point.

4.2.2 APPOINTED FIRST AID PERSONNEL

Appointed first aid personnel will be trained to the full three-day course standard and will be required to attend any person and apply their training to the best of their ability given the circumstances at the time. They will be required to maintain their skill level to enable them to carry out the duties of the first aider. Where required, Oxygen and Defibrillator trained personnel are to be made available.

5. CONSTRUCTION METHODOLOGY AND SEQUENCE

5.1 PROGRAMME

The sheet piling activities are scheduled to be undertaken in Spring/Summer 2023 (dates to be confirmed), as shown below in Figure 5.a.

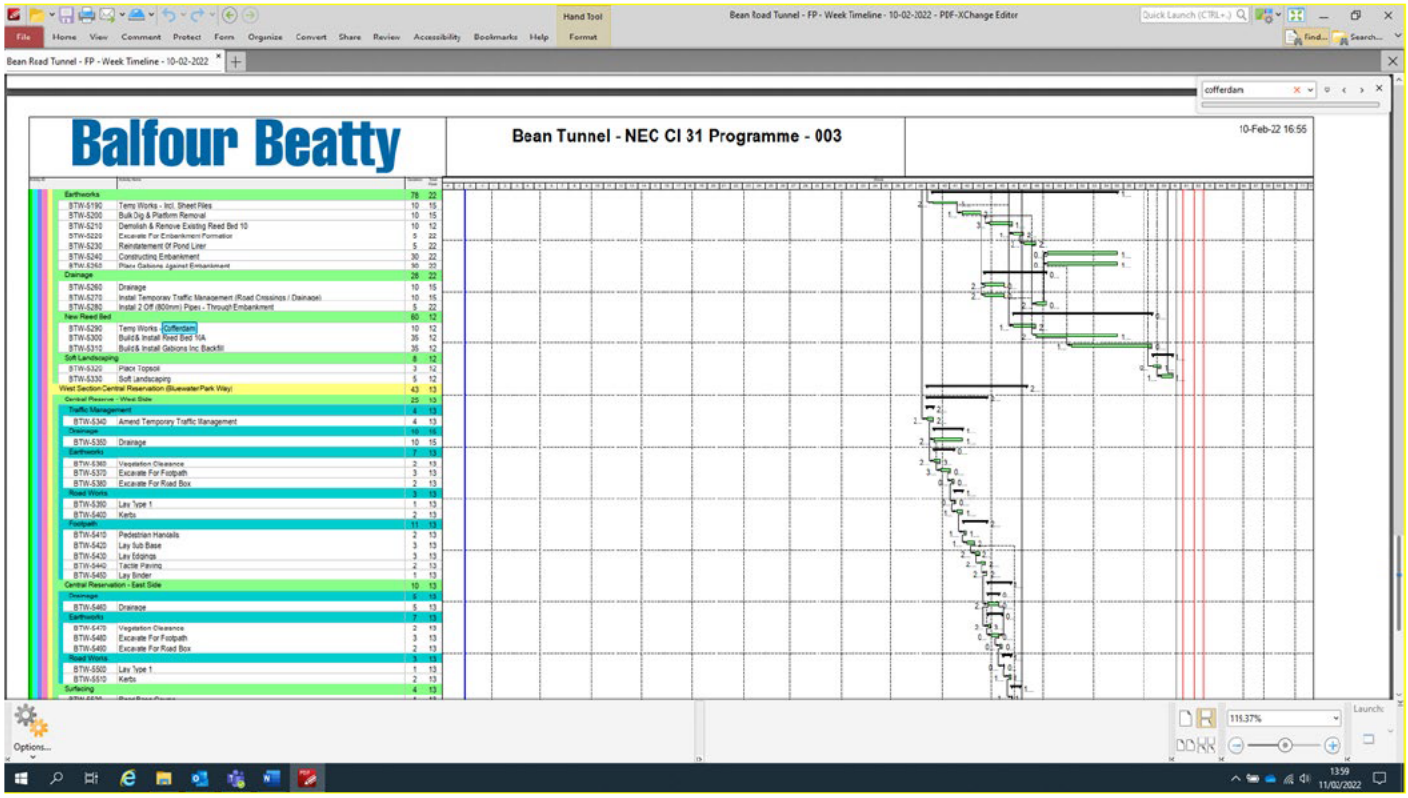

Figure 5.a.

5.2 METHODOLOGY

The temporary sheet piles will be installed in line with the approved outline method statement stated in Section 2.2.

5.3 THAMES WATER PIPE MONITORING

Prior to, and during the sheet piling installation works there will be a monitoring system set up to directly record and monitor any movement of the Thames Water Pipe to validate the design assumptions and to ensure that the sheet pile wall or ground movement is not misinterpreted for pipe movement. A baseline monitoring period for the pipe before cofferdam works start will be established to provide data of existing movement due to existing environmental conditions. Movement tolerances and trigger points will be agreed between Balfour Beatty and Thames water prior to commencement of work.

6. INCIDENT MANAGEMENT AND CONTROLS

Throughout the construction of the tunnel Balfour Beatty will employ the following incident management procedures and controls to protect our people, subcontractors, the public, third parties and affected assets.

6.1 REDUCED VIBRATION

All sheet piles will be installed using silent press-in piling technology to limit vibratory action and mitigate any potential damage to adjacent services and assets. To further limit the amount of vibratory action required, the

sheet pile alignment will also be pre-augered to reduce the effective resistance of the ground prior to the installation of the sheet piles.

6.2 THAMES WATER PROCEDURE

Two-weeks prior to the commencement of any works that will or could have an impact on Thames Water assets the Bean Tunnel team will contact Thames Water and obtain a 'Permit to Work' thus ensuring that Thames Water are aware of the works in the vicinity of their asset and that precautions have been agreed in advance to mitigate against damage, and where damage does occur a pre-determined plan is in place to mitigate the impacts thereof. Upon completion, the Bean Tunnel team will advise Thames Water that the works are complete and that no leaks have been detected.

In the event of damage, or suspected damage, to a Thames Water asset the Bean Tunnel team will contact the relevant Thames Water control centre as detailed in Section 4.1 and below:

In the event of damage, or suspected damage, to a **Wastewater Asset:**

Thames Water Waste Operational Control Centre – 0800 009 3908

In the event of damage, or suspected damage, to a **Clean Water Asset:**

Thames Water Clean Water Network Management Centre – 0800 009 3909

The Bean Tunnel team will contact the relevant number at the earliest available opportunity to allow Thames Water to isolate the service, identify the damage and agree a method of repair. During this period, works will cease until a repair has been agreed. As the damage, should it occur, will happen during tunnelling works the Evacuation Plan should be followed to ensure operatives are removed from the affected area as swiftly, and safely, as possible.

A confidential Thames Water 24-hour helpline (0800 030 8080) is available to all persons engaged in the project, and members of the public, in order to raise SSHE concerns. This number will be provided to all project staff and widely advertised. Balfour Beatty will treat any incident reported via the Thames Water helpline as a Level 3 incident in the first instance.

6.3 WORKING WITH STATUTORY UNDERTAKERS

Depending on the type of incident or emergency, the project team will need to work closely with the relevant Statutory Undertakers. The extent of involvement with these services will depend on the situations for which they have responsibility and will vary according to the circumstances and the capability of the service.

Regular meetings between the Bean Tunnel project team and Fire/Ambulance services to liaise, discuss and review the requirements of the Fire and Rescue Service Operational Guidance for Incidents in Tunnels and Underground Structures. The Bean Tunnel team will also liaise with the Emergency Services to practice emergency scenarios regularly during the project. Where required, the Emergency Services will be supported by the ERT – this will depend on the nature of the incident and will be directed by the Emergency Services.

Where an emergency, or incident, is related to utilities the ERT will work with the relevant Statutory Undertake to contain and make safe any damage to their assets.

6.4 EMERGENCY/INCIDENT CONTROL PROCEDURE

The Supervisor and/or Foreman is responsible for the assessment of the nature and extent of the incident. They are authorised to direct personnel and take immediate actions as necessary to ensure the safety of those in the area.

The Supervisor/Foreman is responsible for making an initial assessment of the nature and extent of the incident or emergency at site level. They are authorised to direct project personnel to take any immediate actions in respect of the incident or emergency, order area or zoned evacuations and seek assistance from appropriate persons, or agencies as necessary.

The Supervisor/Foreman will remain in control of local operations, materials and equipment, the movement of persons including those of subcontractors, third parties and members of the public who are at immediate risk, until such a time as a representative of an Emergency Service/Statutory Undertaker formally takes control of the procedure.

Local A&E Hospital:

Darent Valley Hospital, Darenth Wood Rd, Dartford, DA2 8DA

7. EMERGENCY PREPAREDNESS PLAN REVIEW PROCEDURE

7.1 REVIEW AND UPDATE POLICY

This EPP will be reviewed by the Project Manager on a six-monthly basis, or as required, to ensure it remains up to data and reflects the current construction methodology. The EPP will also be reviewed and updated based on learning from site activities or EPP testing, such as when:

- A recommendation is identified following an incident
- Significant changes to the work site or site conditions are identified
- A test situation identifies improvements